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SUBJECT: Iran's Silkworm Antiship Missile Capability
NESAS M 87-20069

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[Redacted]

2 July 1987

MEMORANDUM

SUBJECT: Iran's Silkworm Antiship Missile Capability [Redacted]

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Tehran became interested in acquiring the Chinese-made Silkworm antiship missile after Iranian military and political officials visited Beijing in the late summer of 1985 [Redacted]

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[Redacted] Despite Iranian reservations about the quality of the weapon, the Revolutionary Guard signed a contract later that year to purchase several hundred Silkworm missiles and 48 launchers (12 batteries of 4 launchers each), [Redacted]

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Both the Revolutionary Guard and the Iranian Navy were to receive the missiles. The Iranians intended to use the missiles to counter new frigates that Italy was building for Iraq and that were scheduled for delivery in 1986. [Redacted]

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[Redacted]

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[Redacted]

[Redacted] So far, four launcher vehicles, 20 missile crates, and the related radar and support vehicles have been seen during unloading operations at the port. Tehran may have received additional missiles and launchers [Redacted]

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[Redacted] We believe that the rest of the [Redacted]

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This paper was prepared by [Redacted] Iran-Iraq Branch, Persian Gulf Division, Office of Near Eastern and South Asian Analysis. Comments and queries are welcome and may be directed to the Chief, Iran-Iraq Branch, Persian Gulf Division, NESAs, [Redacted]

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[Redacted]

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[Redacted]

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Silkworm launchers and missiles specified in the contract will arrive in Iran later this year. [redacted]

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[redacted] at least four possible prepared Silkworm launch sites--two on Qeshm Island and two at Kuhestak--near the Strait of Hormuz. [redacted]

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Strategy and Operations

We believe Tehran views the Silkworm as giving substance to its claim that Iran has a sophisticated weapon that can sink ships. In many ways the Silkworm combines the range, destructive power, and expendability lacking in other Iranian antiship weapons. These capabilities support Iran's overall strategy of attacking tankers to coerce the Gulf states into reducing their political and economic support for Iraq and more recently to weaken the Gulf states' support for increased superpower presence in the Gulf. Tehran probably also hopes that the threat posed by the missile against US warships will intensify debate in Washington, eventually forcing the United States to withdraw its naval presence from the Gulf. [redacted]

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The Silkworm's 1,100 pound high-explosive warhead is likely to seriously damage or sink warships or tankers. It has an armor-piercing capability and is over three times the weight of the Exocet warhead that severely damaged the USS Stark. In the 1967 Arab-Israeli war, Egypt sank an Israeli destroyer with two missiles similar to the Silkworm. We estimate that one Silkworm could cause sufficient hull damage or fires to sink even the largest supertanker. We believe the missile has a 50 to 70 percent chance of hitting a larger ship that is not protected by passive or active countermeasures. [redacted]

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We believe the chance of an unauthorized firing of a Silkworm is low. [redacted]

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[redacted] Iran's Navy probably would be less zealous than the Guard in its willingness to fire a Silkworm, especially against a US ship. Nonetheless, if ordered, we believe that the Naval units would launch the missile. The religious fervor and anti-US sentiments of the Revolutionary Guard make it more dangerous, but there is little evidence that the Guard undertakes unauthorized activities. Instead, the evidence suggests that the Guard has been brought more closely under the control of the central government in recent years. Some analysts in the

intelligence community, while recognizing the institutionalization of the Guard, cannot entirely discount the possibility that a local Guard commander might act independently to attack a US-flag ship, especially if hostilities already were underway.

[redacted]

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Although Navy personnel probably are more technically competent than Revolutionary Guards, we believe both services are capable of firing the Silkworm.

[redacted]

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The Revolutionary Guard's lack of educated personnel and difficulty operating technical systems in the past suggest that the Guard is more likely to make mistakes that would reduce the effectiveness of the Silkworm.

[redacted]

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Warning

Iranian leaders are unlikely to give any public indication that they are preparing to use the Silkworm. Instead, their public statements probably will remain ambiguous to hide their intentions and allow them to justify and carry out a variety of actions. Statements by US officials concerning possible preemptive strikes will make Tehran especially careful not to give any sign that it is preparing to use the missiles.

[redacted]

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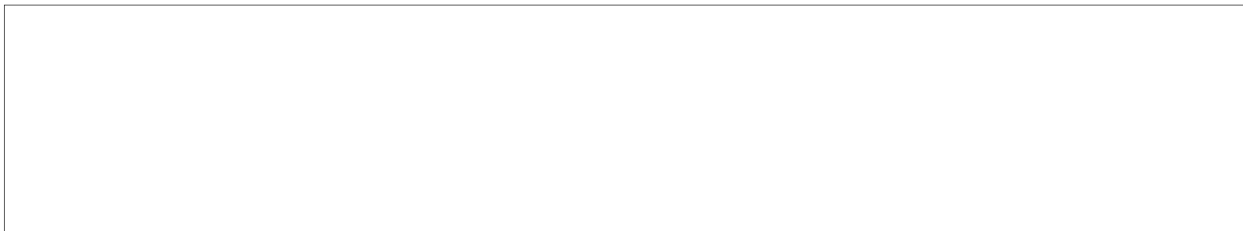
We believe little or no tactical warning would be evident that a Silkworm missile was being prepared for launch. On the basis of statements of Iranian officials, we believe Tehran is aware of [redacted] efforts and would take precautions to hide the Silkworms and preparations for launch. The wheeled launcher can be moved and launched from any flat area along the coast. Prepared positions--such as the two sites near the Strait of Hormuz--are not needed for a launch.

[redacted]


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[redacted]

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Although Iran is most likely to fire a Silkworm from sites on or near the Iranian mainland, Tehran may try to use other locations to surprise or reduce warning to targets and extend the Silkworm's capabilities. Iran could, for example, put a Silkworm launcher and launch equipment onto a large barge or ship to carry out shipping attacks from unexpected directions anywhere in the Gulf. Launching a Silkworm from a ship would reduce the effectiveness of the missile, but we believe it still would have a considerable chance of hitting a target. Tehran might deploy missile launchers and radars to Farsi Island, in the central Gulf, from which Silkworms would have the range to hit any ship attempting to reach Kuwait. The Iranians also could place a Silkworm launcher on one of their large offshore oil platforms in the Gulf. 

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Neutralizing the Silkworm

We believe the Silkworm threat would be difficult to eliminate with air or naval attacks on Iran. Because of the unlikelihood that all the launchers and associated equipment would be found, a single or even repeated strikes probably would not destroy and might not even significantly reduce Iran's capability to attack ships with Silkworms. Tehran already may have dispersed the Silkworms throughout the Bandar-e Abbas area--and perhaps other parts of Iran--to reduce the chance that all missiles could be destroyed in a preemptive attack. Even if the location of a launcher were known--for example after a launch--the Iranians would need less than two hours to dismantle a launcher and might be able to move it before an effective air or naval attack could be launched. 

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Prospects

The Silkworm is the least likely option Iran would use in the range of options it has to attack shipping in the Gulf. The Silkworm's high potential to heavily damage or sink a ship and its inability to strike specific targets among a group of ships may make the Iranians reluctant to use it before they have tried other measures. Among its other options, Iran could increase its



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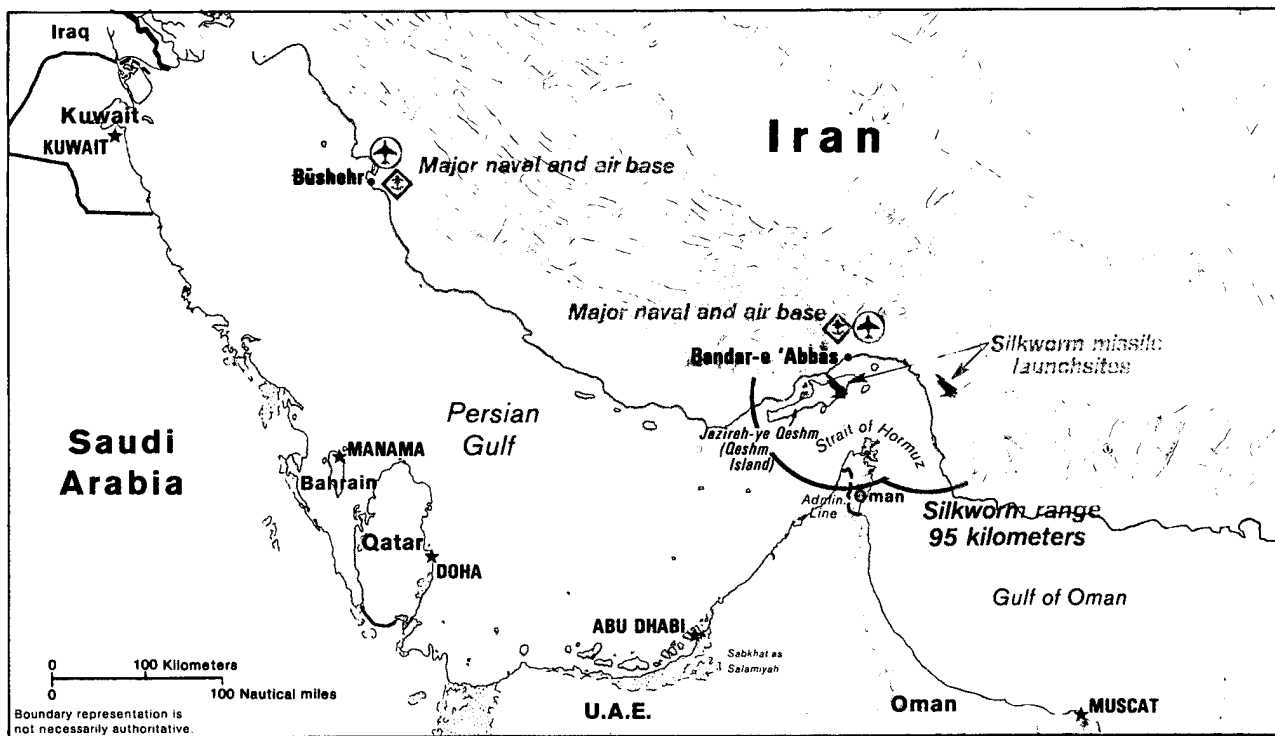
mining of sea lanes because such activities would allow Tehran to deny responsibility and thus reduce the likelihood of US retaliation. Iran might try to use small, maneuverable speed boats armed with light weapons in quick harassing raids on ships. If such measures failed to influence US activities, we believe Tehran would consider attacks by small civilian aircraft, fighter aircraft, or Iranian warships. [redacted]

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If backed into a corner, we believe Iran's initial use of a Silkworm would be against a commercial ship or, should it occur, an unescorted US flag tanker traveling to or from Kuwait. Tehran might decide to strike a non-US tanker to demonstrate the Silkworm's capabilities and Iran's resolve while avoiding a direct attack on US ships. If the Iranians decide to attack escorted ships, we believe they would prefer to use the Silkworm against tankers rather than the nearby US warship escorts. The Silkworm's poor target discrimination capability, however, increases the likelihood that an escort warship might be struck. Iran probably would deliberately target Silkworms against US warships only after a US air or naval attack on Iranian territory. [redacted]

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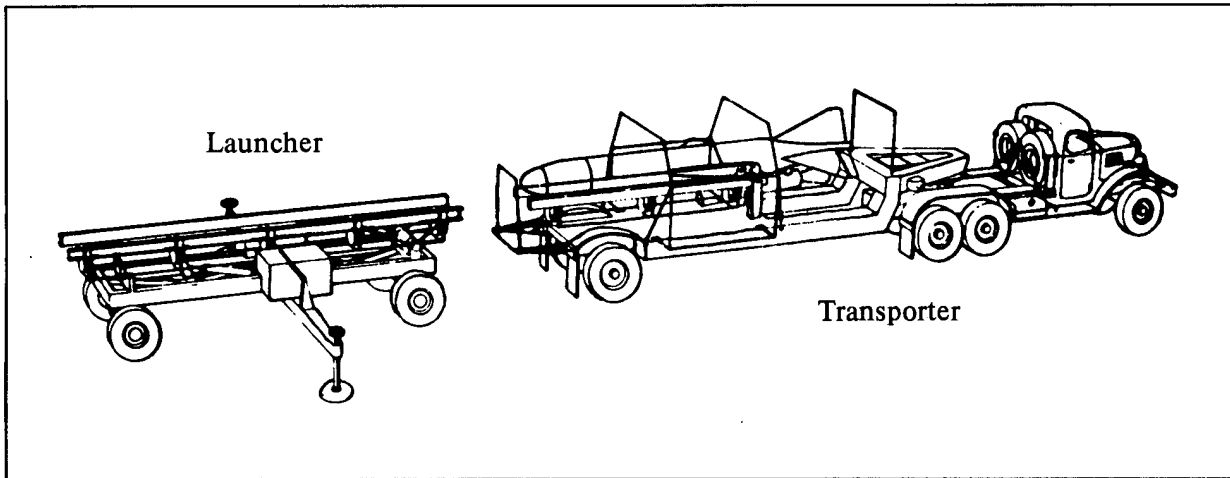
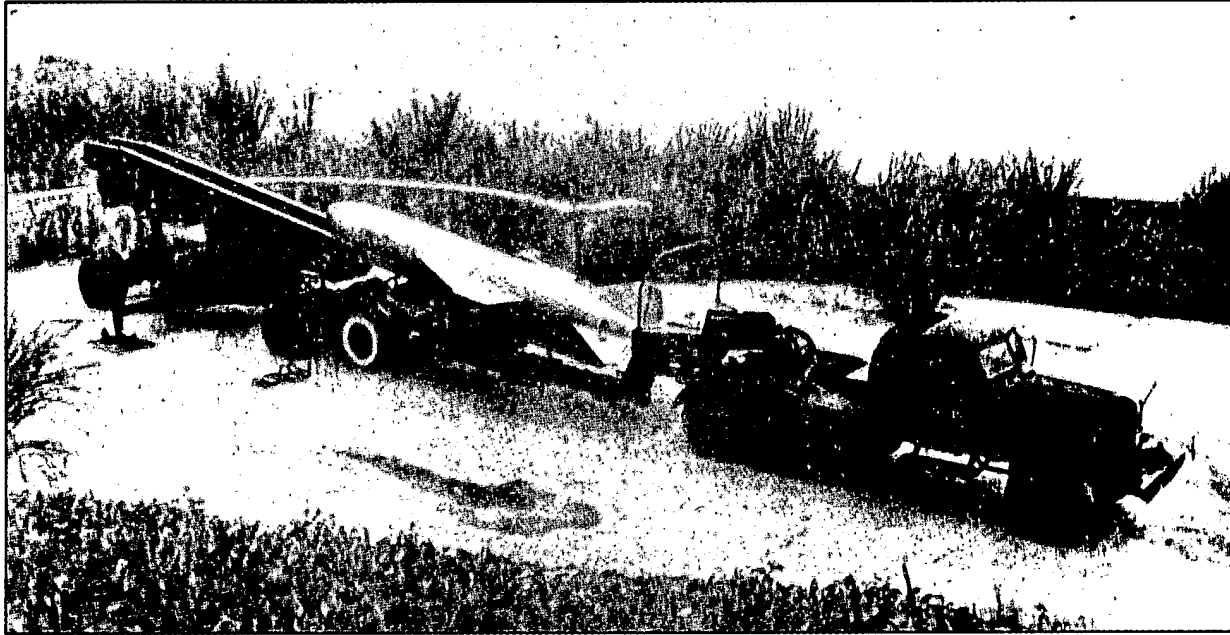
Iranian Capabilities To Attack Shipping



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Silkworm Antiship Cruise Missile



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